Intrapartum care for women at low obstetric risk

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Pregnancy & childbirth in Denmark (5 mill people)

- **ALL** maternity services are **free** (tax paid)
- >99% of all women choose to follow the national antenatal program:
  - All women have **shared care** during pregnancy by a **midwife** (primary carer) and a **general practitioner**
  - High risk women have additional care by an obstetrician or specialist midwife

2015: 57,000 births.

- 97,5% in obstetric unit
- 0,5-1% freestanding midwifery units (3 units in DK – 55 in UK)
- 2% home birth (small but steady increase)
- Midwives attend all births - and care autonomously for low risk births regardless of place of birth

- Low perinatal mortality (<6/1000), low maternal mortality <10/100,000
- Relatively low intervention rates (all births): 20% caesarean section

Midwifery in Denmark

- **>300 years** of authorisation for autonomous care for low risk women during pregnancy/birth/post partum
- Trained in a 3.5 year direct-entrance Bsc. program *(Danish midwives are not nurses)*
- No routine use of cardiotocografi (CTG) during birth
- No obstetrician or paediatrician present at/after birth (unless called because of complications)
- Midwives are authorised to independently:
  - give medication to stop post partum bleeding
  - give pain relief for and perform suturing of 1 + 2 degree perineal tears
  - initiate resuscitation / emergency treatment of mother and child

Jordemødre
300 år med autorisation

Midwifery services

(in DK but also other Nordic countries, the UK ect.)

- **In DK: Obstetric units must have a separate budget** for midwifery services (administrated by a chief midwife) to be spend on:
  - Pregnancy care and post partum care (mostly out-of-hospital)
  - 24h/day home birth service (hospitals obligated by law)
  - Intrapartum care for both high-risk and low-risk women

  Midwives are free to set up a private practice but are normally employed by a hospital with an obstetric unit.

- **Midwifery services in hospital may also include:**
  - Screening for fetal malformations (scans by midwife-sonographs)
  - Specialist services (consultant midwife, specialist care for particular groups)
  - Post partum care (some hospitals have a midwifery-led post natal ward)
  - Local authorisation to perform e.g. instrumental delivery

The key concept

” Every woman needs a midwife,

and some women need a doctor too” *(Sandall 2013)*

Midwifery-led care – what is it?

Care where:

- *a midwife is the lead professional in the planning, organization, and delivery of care throughout pregnancy, birth, and the postpartum period*

Midwife finishing her admistrative tasks after a birth at the obstetric unit, Aalborg University Hospital (right)

A key element in midwifery-led care is continutity, which has different forms:

1) A stated staff commitment to a **shared philosophy of care**

2) Continuous carer responsibility

- Same midwife all though birth

(BUT she may care for two or more women at the same time)

3) **Continuous midwifery support** during labour (Cochrane review)

- A midwife is present with the woman all through birth
  - **one to one care** (but maybe not the same midwife)

4) **Continuity/"knownness" of carer** = caseload midwifery)

- Care throughout pregnancy, labour, birth and the postnatal period is provided by same or a small group of 2-3 midwives

How do midwifery-led continuity models of care compare to medically-led or shared care?

Women in midwifery-led continuity models compared to hospital-led care are:

- Less likely to experience:
  - overall fetal/neonatal death
  - preterm birth
  - regional analgesia, episiotomy, and instrumental birth

- More likely to
  - experience spontaneous vaginal birth
  - feel in control during childbirth
  - initiate breastfeeding

Significant benefits for mothers and babies without showing any **adverse effects**

Furthermore, a cost-saving effect has been seen (may depend on heath care system).

See: Sandall et all 2013 (Cochrane Review), Devane et al 2012.

Increased use of midwifery services are recommended by WHO

(see also THE LANCET 10 series on Midwifery from 2014)

A substantial body of high-level evidence show that (also in high-income countries):

- midwives in continuity-of-care models contribute to high-quality and safe care
- improvement of maternal and newborn health may be possible through midwifery

One important thing is getting the balance
right in the use of interventions

- Midwives may simply be more aware of the old slogan:

Global concerns in birth care

- Services close due to specialisation, centralisation and cut downs
  - Women have to travel far in labour (sometimes >100 km)
    - To early admission to hospital may trigger a cascade of interventions
  - Local / rural communities loose services

- Obstetric units are getting increasingly large (3-8000 births) and busy
  - Complaints over work overload; low job satisfaction among midwives
  - Use of interventions are increasing (in DK – focus on overuse of augmentation of labour)
  - Lack of continuity (staff is moved around to fill gaps)
    - Women often see different midwives during pregnancy
    - Women may be attended by several different midwives (and doctors) during labour, all unknown
    - Dis-continuity of care is associated with loss of information, less attention to patient needs, delay of appropriate action – a concern for patient safety!

The development has led to experiments with types of birthing units

Especially in UK, Australia and Canada, small birth units in local areas has been transformed into freestanding midwifery units for low risk women (or new have been build)

Continuity midwifery models (often caseload midwifery) are introduced to increase the quality and safety of care

What is a midwifery unit exactly?

A clinical location, offering care around birth to **low risk women,**
in which midwives take primary professional responsibility for care.

Some midwifery units are placed in large hospitals, **alongside** an obstetric unit
Today we focus on **freestanding midwifery units** (FMU),
that are placed in small, local hospitals or stand alone

Obstetricians or paediatrician can not be called to the freestanding unit
(but in some units, an anaesthetic nurse or doctor for emergency back-up)
no caesarean section can be performed;
– women are transferred by ambulance or helicopter (or in their own car)
if sighs of complications arise

HOWEVER, A MIDWIFERY UNIT IS NOT JUST A PHYSICAL PLACE

Care differences:

Midwifery unit	Obstetric unit
Explicit shared philosophy of care - e.g. active encouragement of mobility and use of upright labour/birth positions	No explicit shared philosophy of care No shared policy on mobility and use of birth positions
Midwives in 24 h shifts High level of continuity (maybe known midwife)	Midwives in 8h and 12h shifts Limited continuity of carer
One-to-one care Continuous support Focus on psycho-social needs	Rarely one-to-one care Often not continuous support in labour until 6(-8) cm dilatation
Early labour: Women invited to text or call the midwife on duty at any time	Early labour: Women can call the labour ward but rarely speaks to the same midwife twice
Quiet environment – women invited to "feel at home", make use of facilities	Busy environment, stay in birthing rooms
Emergency assistance from anaesthesiologist/ resuscitation-capable specialist nurse on site	Obstetric, anaesthesiological and paediatric service available on site
Epidural / interventions requires transfer by ambulance – other things tried first	Epidural / interventions easily available

Too ”good” to be safe?

Several retrospective studies from e.g. Norway, Canada, USA, England, Australia, Germany was available (some studies small or not recent)

Two studies with similar designs were conducted at almost the same time (published 2011-2012 - with very similar results) :

- The Danish Birth Centre study: 1768 women (Aalborg University)
- The Birthplace of England study: > 65, 000 women (Oxford University, National Perinatal Epidemiology Unit).

The Danish Birth Centre Study

Designed as a matched cohort study that investigated

- perinatal and maternal morbidity,
- birth complications
- birth interventions, and use of pain relief
- women's birth experiences, care satisfaction
- and perceptions of patient-centred care elements

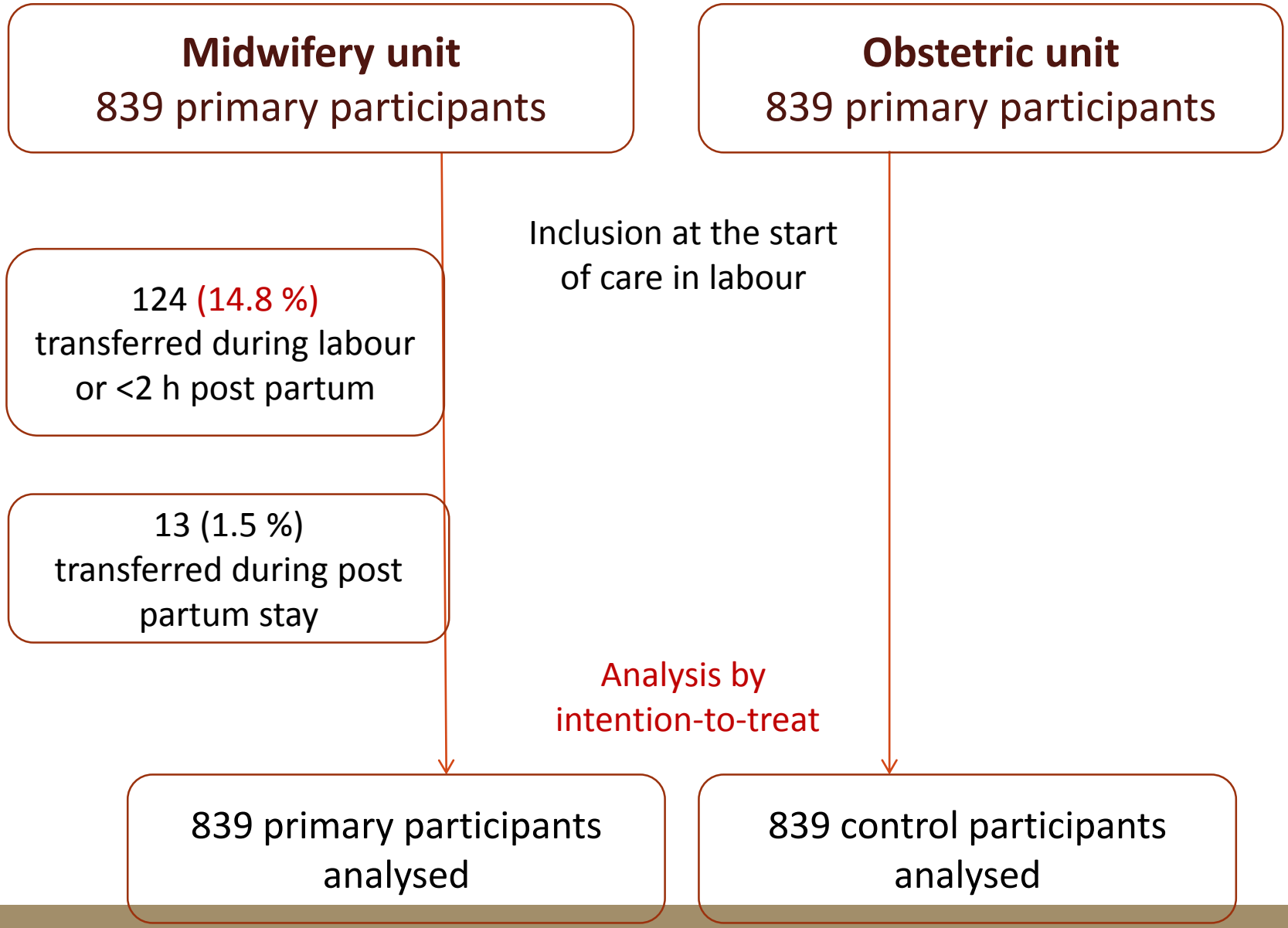
in two freestanding midwifery units and two obstetric units

in the same region

Only low risk women in both groups; 25% first time mothers

50 min transfer time to obstetric unit

Participants - The Danish Birth Centre study



N of cases among the 839 participants MIDWIFERY UNIT

N of cases among the 839 controls OBSTETRIC UNIT

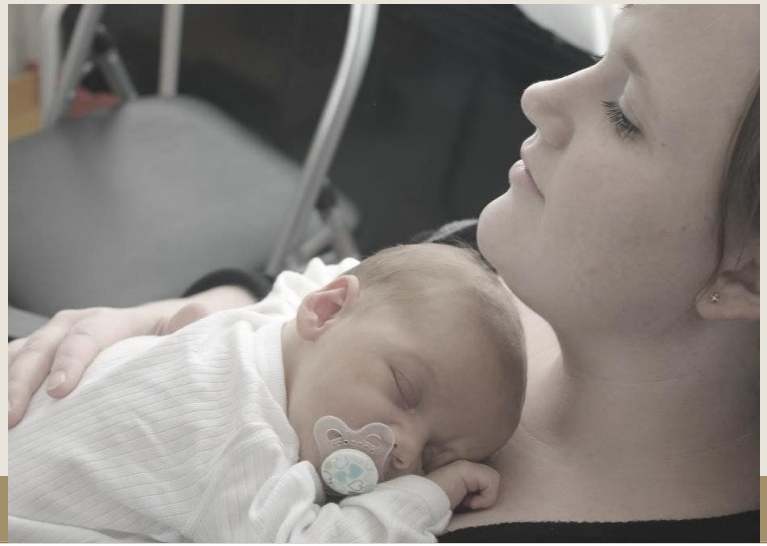
	N of cases among the 839 participants MIDWIFERY UNIT	N of cases among the 839 controls OBSTETRIC UNIT
Apgar score < 7/1 min	22	25
Apgar score < 7/5 min	5	5
NICU admissions	28	42
NICU >48 h	14	15
Re-admission (0-28 days)	26	35

The Danish Birth Centre study & Birthplace of England study: no significant difference between groups

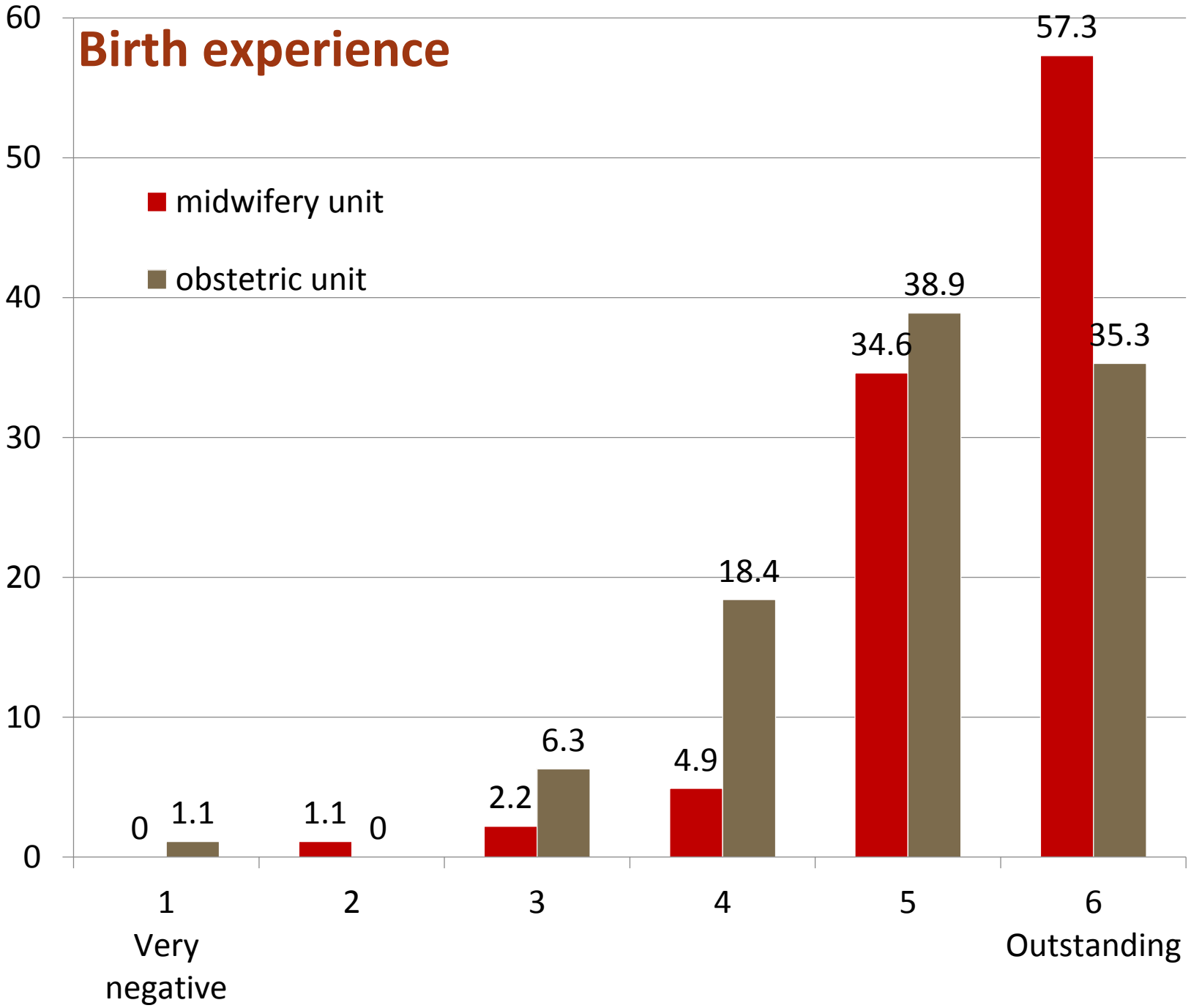
Interventions

The Danish Birth Centre study - and The Birthplace of England Study – also both found:

- Significant 30-60% reductions in all birth interventions among women planning for birth in a freestanding midwifery unit
  - E.g. cesarean section RR 0.6, CI:0.3-0.9



Birth complications (Danish Birth Centre study)	Midwifery unit N (%)	Obstetric unit N (%)	RR	95% CI	P-value
Abnormal fetal heart rate:	34 (4.1)	98 (11.7)	**0.3**	0.2-0.5	0.0000
Baby not able to decent through pelvis	3 (0.4)	16 (1.9)	**0.2**	0.05-0.6	0.0044
Baby born in irregular head position:	13 (1.6)	28 (3.3)	**0.5**	0.3-0.9	0.0201
Shoulder dystocia (obstetric emergency):	3 (0.4)	12 (1.4)	**0.3**	0.5-0.9	0.0352


Birth experience
midwifery unit
obstetric unit
60
50
40
30
20
10
0
0
1.1
1.1
0
2.2
6.3
4.9
18.4
34.6
38.9
57.3
35.3
1
Very negative
2
3
4
5
6
Outstanding

The new evidence made the well-estimated NICE institute (National institute for Clinical Exellence) conclude in the English guidelines for Normal Birth 2015:

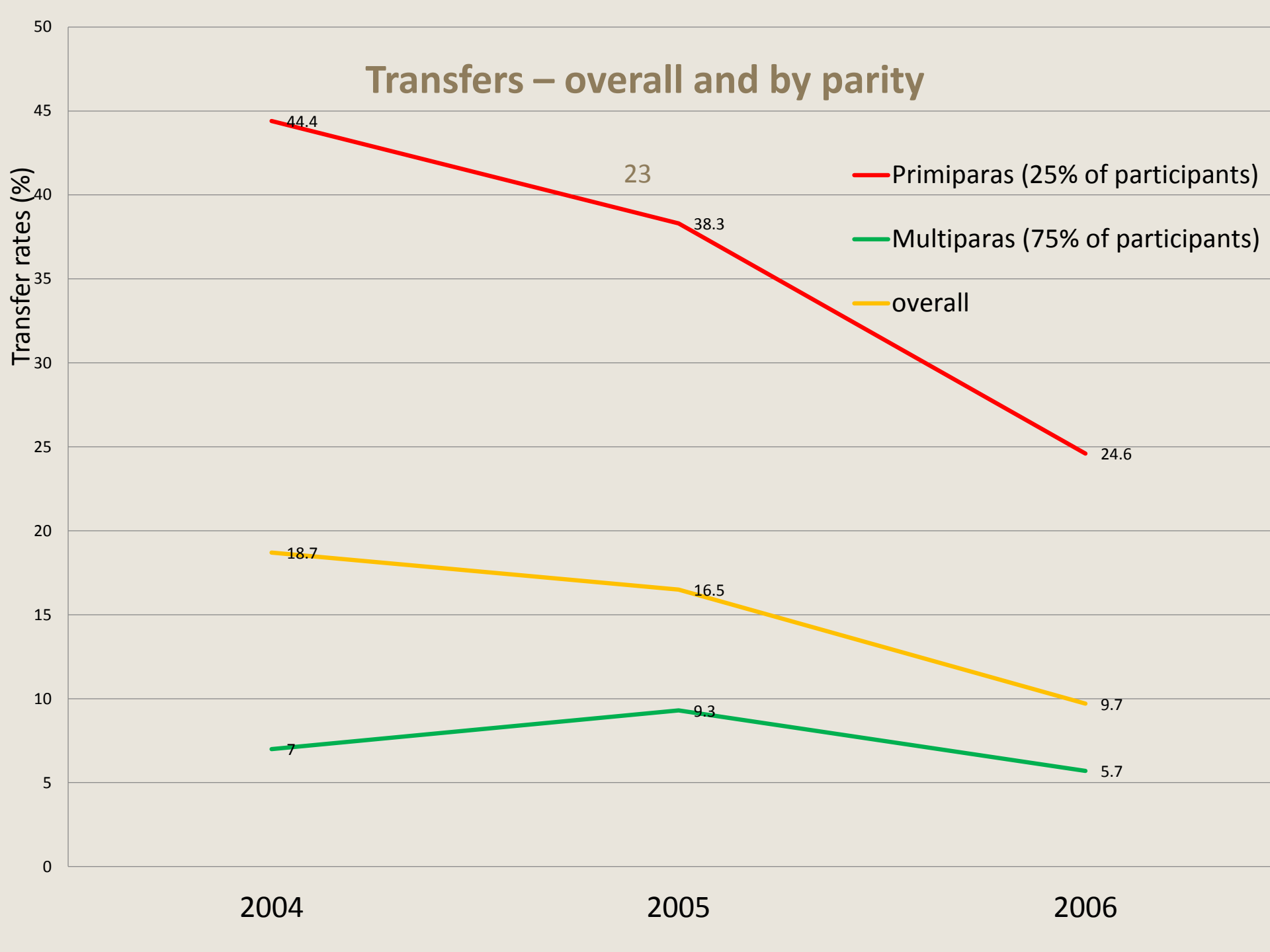
"The evidence now shows that midwife-led care is safer than hospital care for women having a straightforward, low risk, pregnancy"

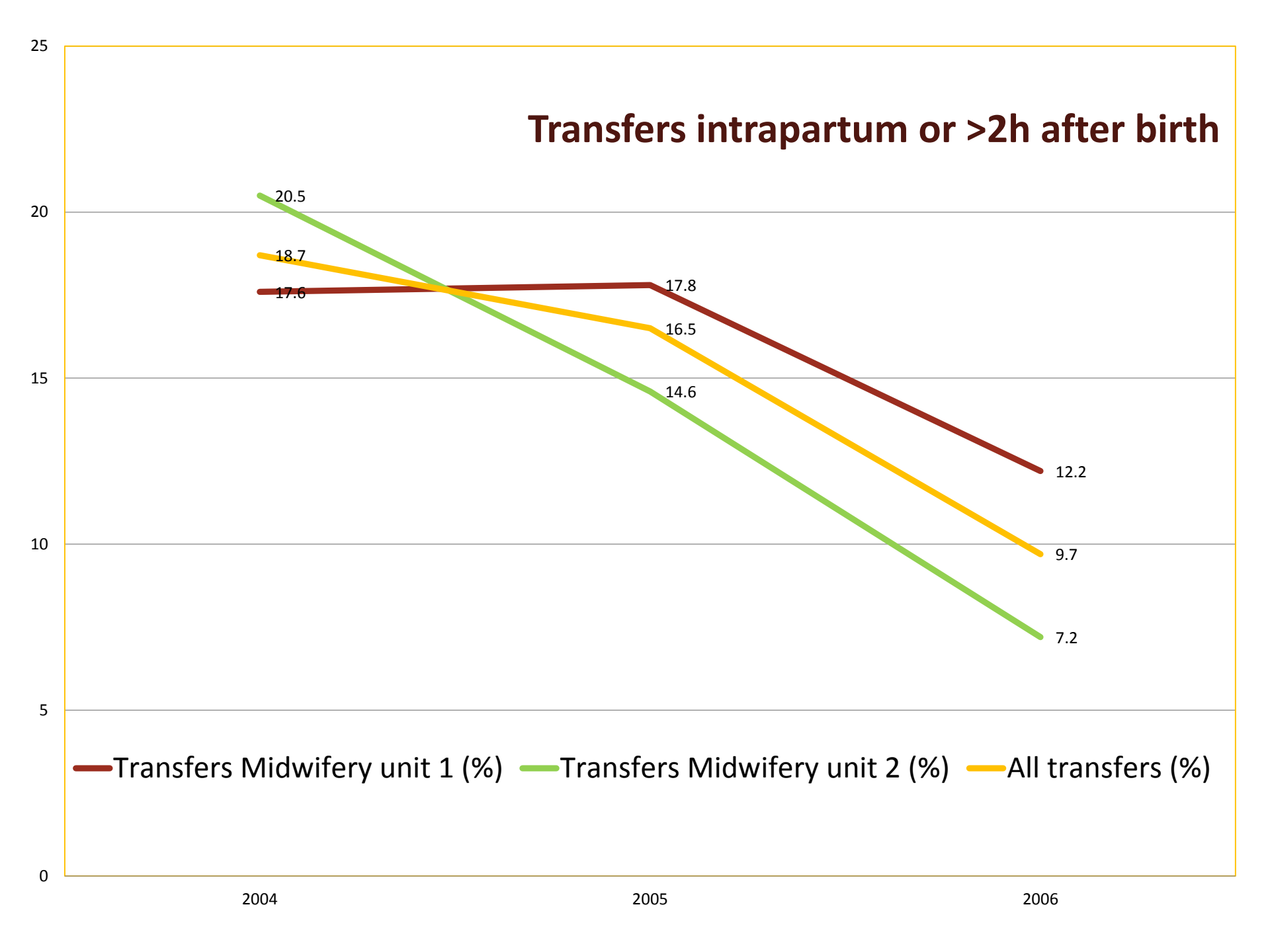
"This is because the rate of interventions, such as the use of forceps or an epidural, is lower and the outcome for the baby is no different compared with an obstetric unit".

"There is no reason why women at low risk of complications during labour should not have their baby in an environment in which they feel most comfortable"

Prof Mark Baker, NICE

NICE guidelines: http://www.nice.org.uk/guidance/cg190/evidence


Transfers – overall and by parity
23
Transfer rates (%)
50
45
40
35
30
25
20
15
10
5
0
44.4
38.3
24.6
18.7
16.5
9.7
7
9.3
5.7
2004
2005
2006
Primiparas (25% of participants)
Multiparas (75% of participants)
overall


Transfers intrapartum or >2h after birth
25
20
15
10
5
0
20.5
18.7
17.6
17.8
16.5
14.6
12.2
9.7
7.2
2004
2005
2006
Transfers Midwifery unit 1 (%)
Transfers Midwifery unit 2 (%)
All transfers (%)

In Denmark the national board of health so far has kept pushing for closure of small units

To meet the problems, caseload midwifery has got great focus:

- Introduced small scale in almost all Danish obstetric units
- Introduced large scale in a few units (1/3 af women)
- **1** small obstetric unit is run exclusively by caseload group

Caseload midwifery may be introduced for several reasons:

- Professional: optimising care for all women, for special groups of high risk og vulnerable women - or simply for getting first birth right
- Personal: midwives personally motivated, attracts midwives to the unit, stimulates the job environment, development of skills
- Economical: to attract patients in competition with other units – and sometimes to cut cost

A high level of continuity is a key issue in achieving a high level of quality of care

Definition:

- 2-3 midwives provide ante-, intra- and postpartum care for a caseload of women (e.g. 100-180 women) based on a shared philosophy of care

- Always one of the midwives in the team on duty, providing continuous labour support if possible
  - One midwife from the group in on call 24h a day, 7 days in a row
  - One day a week: pregnancy care. All midwives in team present to ensure all women meet the whole team before birth

Caseload midwives:

(Below: Two Danish caseload midwives preparing the birth tub)

- become very dedicated to women in their caseload
- experience their work as rewarding, meaningful and of better quality
- Need control from management to be replaced with trust and responsibility, self-confidence and self-management
- May find their own interests conflicting with the interests of management:
  - Managers may aim for the highest possible caseload - caseload midwives want to deliver the highest possible level of continuity and quality of care
- may burn out / get sick if:
  - the caseload is too big
  - they feel isolated and/or not well regarded

Points for consideration in the reorganisation of birth services

- Introduction of freestanding midwifery units and continuity midwifery models holds great potential for improvement of health and well-being among low risk women

- Freestanding midwifery units is a safe, high quality care option for low risk women within a network of supporting obstetric units

However – a successful (new) service need local involvement and support

All changes are deeply embedded in local context: no solution fits all

Local health professionals, services users but also local citizens should be involved, listend to and considered as ressources

Be aware that if several changes in organisational structures occur simultaneously, the chance of success may be smaller

- And even more in case of changes in professional competences and roles (professionally rivalry)

Thank you for listening!

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